

# Gender and affiliation differences in topic selection in U.S. congressional speeches

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## Abstract

The aim of this paper was to study gender differences in topic choice selection using the corpus of speeches given in the 113<sup>th</sup> United States Congress. We also looked at whether there are topic choice selection differences with respect to party affiliation and chamber, and finally, whether conversational topics chosen by male and female politicians correlate with any other category we measured in our corpus. The corpus was composed of 672 speeches by the female and 2,983 speeches by the male politicians. The speech transcripts were downloaded from the official repository Thomas and analyzed using the text analysis software *Linguistic Inquiry and Word Count* (LIWC) to identify the use of vocabulary related to seven conversational topics recorded by LIWC. The data was analyzed both quantitatively, using statistical analysis, and qualitatively, to determine if there are significant gender differences in speech topic selection. The analyses showed that there are overall gender and affiliation differences in topic selection by the male and female politicians in the 113<sup>th</sup> Congress, some confirming the trend of long-standing prevalence of home-related references in women's speeches, and death and religion references in men's speeches, others marking a social shift for some of the categories compared to previous studies on the topic, such as the increasing share of references to work, money achievement in women's speeches, as well as women's preference for security, and men's preference for competitiveness, as signaled by their lexical choices. Further correlation test results recorded subtler differences which pointed to linguistic changes in stereotypization, such as women signaling less emotion and choosing more formal ways of expression.

**Keywords:** U.S. congressional speeches; topic selection; gender differences; linguistic change; stereotypization.

## 1. Introduction

Research on language and gender has been done across fields like sociolinguistics, anthropology, psychology, critical discourse analysis, cultural studies, corpus linguistics, communication, education, and queer and feminism studies. In its early stages it often focused on gender differences in language use as evidenced in conversation and other types of discourse practice, and

looked at hierarchical power relations between men and women, using topic selection, interruption patterns, turn-taking or duration of exchanges to illustrate differences attributed to the dichotomy of stereotypical patriarchal male vs. female traits. Baron-Cohen's psychological research (2003) illuminated the biological underpinnings of individual differences between male and female brains and presented scientific evidence which showed that male brains are stronger at understanding and building systems – not just computers and machinery, but abstract systems such as politics and music, whereas female-type brains are better at empathizing and communicating, perpetuating widespread age-old stereotypes of male power and dominance over women. These gender stereotypes resulted in politics often being perceived as a male rather than a female field. More recent research, however, urges us to think about gender in more complex ways, challenging the idea that linguistic differences between men and women have biological rather than social causes and arguing that they are driven by the need to construct and project personal meaning and identity. Even though the binary view has been replaced by the view of gender as social practice, as produced in discourse instead of predetermined by biological sex, the myths and stereotypes still prevail, particularly in fields traditionally dominated by men, such as politics.

Politics may be defined as a struggle for power and imposing one's ideas (Morgenthau, 1978), and as such, it is a field traditionally chosen by men with personality traits such as directness, assertiveness, and self-confidence. These traits are often taken to be prototypical of dominance and masculinity, and desirable in a politician (Huddy & Terkildsen, 1993; Kahn, 1996; Speer, 2005). Even in the 21<sup>st</sup> century, male politicians outnumber female politicians in all political systems, which serves to show the still prevailing asymmetry of power. Furthermore, female politicians tend to be appointed to hold offices related to education, social and health care services, and the environment. Voters associate female candidates with solidarity issues (education, children, the elderly, social affairs, health care and the environment), while male candidates are associated with business, economy, military and agriculture (Leeper, 1991; Alexander & Andersen, 1993; Huddy & Terkildsen, 1993). When a female politician decides to run for office usually perceived as a male field, she may face prejudice and consequently receive fewer votes (Dolan, 2008). If a female politician manages to convince voters that she is as capable as her male colleagues and voters reject stereotypes, a female politician will often be womanized and depoliticized by the media (Bengochea, 2011). Entering the world of politics, the world that has traditionally been monopolized by men, often means that in order to succeed, women need to develop or exhibit some personality traits associated with male gender identity categories, which may affect the way female politicians express themselves. Our study looks at gender and language trends recorded in previous

research and tries to prove or disprove their findings, as well as record new trends in the language use in the field of political discourse.

## 2. Literature overview

There are four main phases of gender studies in language. Following Jespersen's (1922) male-centered characterization of men's language as a standard and women's language as inferior, Robin Lakoff (1975) developed the deficit model. Lakoff claimed that girls are raised to learn a gendered way of communication, which is imposed by the social role of women to "talk like ladies." In order to avoid being rejected by either other women or men, women use hypercorrect and euphemized way of communicating, which labels their speech as deficient. Even though Lakoff's research was criticized for unsystematic and unempirical observations, it inspired numerous research studies. Based on the results of their interruptions study, Zimmerman & West (1975) concluded that men establish a more dominant position in society, hence the dominance approach. Furthermore, researchers started reassessing women's language by exploring its strengths, which led to the cultural difference approach proposed by Maltz and Borker (1982) and continued by Gumperz (1982). According to Gumperz's (1982) framework of intercultural communication, representatives of different cultures abide by different communication rules, which may result in miscommunication. Miscommunication between men and women might be a consequence of them being raised in two different peer groups. This idea was popularized by Deborah Tannen (1986, 1990), who believed that gender differences (six dichotomies – status vs. support, independence vs. intimacy, advice vs. understanding, public vs. private speaking, orders vs. proposals, conflict vs. compromise) arise from differences in the socialization process, thus completely ignoring power relations between the groups. Finally, there are anti-essentialist approaches like ethnomethodology (Garfinkel, 1967), discursive psychology (Potter & Wetherell, 1987), social constructivism (Eckert, 1989; Fairclough, 1989; Butler, 1993; Ochs, 1993; Sarbin & Kitsuse, 1993; Crawford, 1995) and conversation analysis (Sacks, 1992) which put forward the view that gender is not an essential trait but something an individual "does."

Influenced by the Frankfurt School and Michael Halliday's systemic functional linguistics, researchers decided to shift their research focus from single linguistic units to studying more complex social phenomena, which led to a new approach known as the Critical Discourse Analysis approach (CDA). According to Fairclough & Wodak (1997: 258) CDA "perceives language as social practice putting a special emphasis on the context of language use." Discourse is a form of social practice, which implies a relationship between a discursive event and an institution or a situation. CDA ap-

proaches are problem-oriented and interdisciplinary. They are trying to demystify ideologies and power by examining social domination, that is, the power (ab)use. The most influential scholars affiliated to the CDA approaches are van Dijk, Foucault and Wodak. Van Dijk (1988) argued that a thorough analysis should not only be conducted on a structural and textual level but also include production and comprehension levels. A proper analysis would include a discourse analysis (primarily text-based), social analysis (context-based) and cognitive analysis. The second main approach in CDA is Fairclough's (1989), whose three aspects include text, discourse and sociocultural practice. The third CDA approach, discourse sociolinguistics, is practiced by Wodak (2008), who studied text in context and attributed both factors equal importance.

Eventually, researchers set out to conduct research in more specialized areas, such as public contexts, where men's speech has been described as argumentative and competitive as opposed to women's speech, which has been deemed facilitative and cooperative (Coates, 1989; Holmes, 1992). Numerous studies (Westbrook Eakins & Eakins, 1976; Edelsky, 1981; Case, 1988; Baxter, 1999; Karpowitz & Mendelberg, 2014) have shown that men tend to occupy the floor longer than women in public settings. It produced the idea of gendered spaces (Freed, 1996), with public contexts being male, and private being female spaces. However, some studies (McElhinny, 1998) also pointed to women gradually adopting masculine strategies when in predominately male fields – politics being one of them.

More recent studies of language and gender are marked by social constructionist approaches to gender (*cf.* Bucholtz, 2014; Cameron, 2005, 2007, 2012; Cameron & Shaw 2016; Eckert & McConnell-Ginet 2003, 2007; Ehrlich & Meyerhoff, 2014; Litosseliti, 2006; McElhinny, 2014; McConnell-Ginet, 2011; Meyerhoff & Holmes 2008; Speer 2005; Titjen 2018). They represent a paradigmatic shift from the focus on binary differences rooted in biology to the diversity of identities and practices constructed in discourse and gender as complex and interacting with other identity categories, such as education or age. These studies question assumptions guiding language and gender research with an eye to how this might inform feminist theory, the emerging field of feminist linguistics and critical gender theory. They focus on the collapsing of gender, sex, and sexuality, the understanding of gender as an attribute, queer linguistics, research on language of sexual violence, performativity and globalization, among other things. They still look at gender and language in different types of discourse: workplace, media, education, elections, public debates or politics, but the focus is less on how language is used differently by men and women, and more on how gender identities are constructed and reproduced through language.

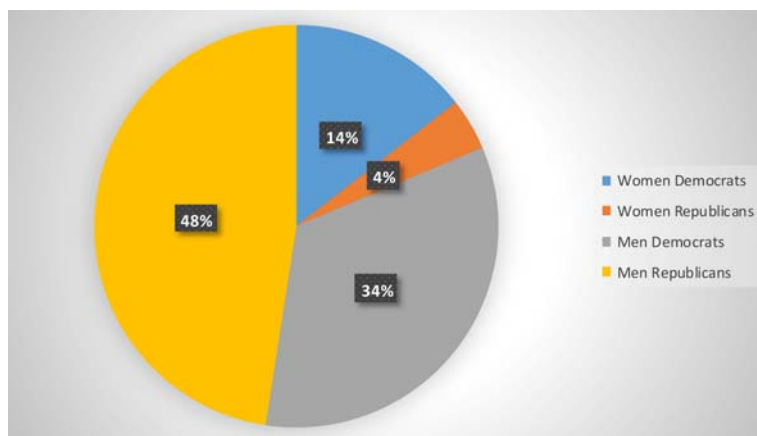
Gender differences in conversational topics have been extensively and systematically studied since 1922, when Henry Moore (1922) carried out a field observation study and found the gender differences in topic choices. His findings inspired numerous researchers to conduct similar studies in various subfields. Different studies recorded gender differences in conversational topics by using various approaches, such as ethnographic descriptions, controlled setting group conversations and self-reports on topics (Caldwell & Peplau, 1982; Haas & Sherman, 1982; Aries & Johnson, 1983; Johnson & Aries, 1983; Bishoping, 1993; Freed & Greenwood, 1996; Eggins & Slade, 1997; Martin Rojo & Gomez Esteban, 2005). In comparison, other studies (Freed & Greenwood, 1996; Dolgin & Minowa, 1997) recorded gender similarities in conversational topics.

The abundance of topics related to gendered use of language and methodological approaches warrants for more detailed and in-depth studies of gender differences in language use and conversational topics selection across different forums and domains.

### 3. Methods

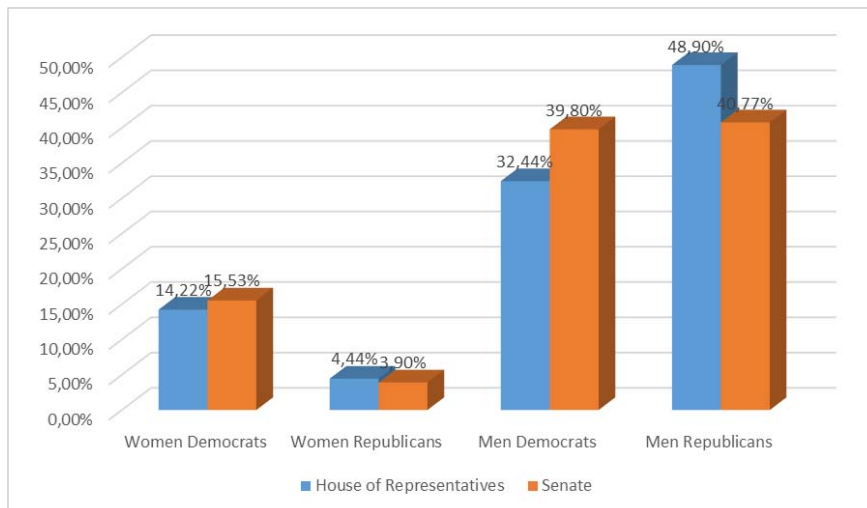
This paper aimed to analyze differences in topic selection by the male and female politicians from the 113<sup>th</sup> United States Congress, which met from 3 January 2013 to 3 January 2015, during the fifth and sixth years of Barack Obama's presidency. We chose this Congress because it recorded the highest number of female politicians at the time of conducting this research, i.e. 103 women (19 percent) and 450 men (81 percent). Furthermore, the 113<sup>th</sup> Congress consisted of 80 women Democrats, 187 men Democrats, 23 women Republicans and 263 men Republicans, as illustrated in Figure 1.

Figure 1: Distribution of politicians based on party affiliation.



The United States Congress consists of the Senate and the House of Representatives. As shown in Figure 2, at the time of our research, the House of Representatives was composed of 64 women Democrats, 146 men Democrats, 20 women Republicans and 220 men Republicans. The Senate was composed of 16 women Democrats, 41 men Democrats, 4 women Republicans and 42 men Republicans.

Figure 2: Distribution of politicians based on chambers seats.



The transcripts of the speeches the politicians gave during the 113<sup>th</sup> Congress were downloaded from the official repository of United States Congress speeches Thomas accessed at <http://thomas.loc.gov/home/thomas.php>. We included all uninterrupted speeches in our corpus, which consisted of 672 speeches made by the female and 2,983 by the male politicians.

Three types of analyses, computational, statistical and qualitative, were conducted in this paper. To analyze the speeches, we used internationally recognized software *Linguistic Inquiry and Word Count* (LIWC), which analyzes an uploaded corpus on a word basis and categorizes words in 80 categories ranging from word count, different grammatical categories such as pronouns, tenses, adverbs, etc. to punctuation and words related to various conversational categories like achievement, money, religion, etc. For the purpose of this paper, we chose all available current concerns categories LIWC analyzes (7 in total) each of which is presented in respective subsections. Our results were discussed and compared to the results obtained in previous similar research and presented in the results subsections. The com-

putational analysis (LIWC) results were uploaded in the software for the statistical analysis SPSS, where we performed the Mann-Whitney, Kruskal-Wallis and Spearman correlation tests in order to determine the statistical significance of our findings and potential correlations between different LIWC categories.

The following research questions were set:

- 1) Are there statistically significant differences in the usage of 7 LIWC conversational topics between the male and female politicians in the corpus of the political speeches made in the 113<sup>th</sup> American Congress? Which topics were more discussed by the male and which by the female politicians?
- 2) Are there any statistically significant differences in the usage of 7 LIWC conversational topics with respect to the party affiliation and chamber?
- 3) Which of the other LIWC categories do conversational topics correlate with?

## 4. Results

In this section we present the results of our LIWC and statistical analyses. The current concerns category in LIWC consists of words related to the sub-categories of work, achievement, leisure, home, money, religion and death. Based on a word-count approach, the software compares grapheme patterns in an input text with the patterns incorporated in the internal dictionary. The software accesses each file individually and compares each target word (a word from a text) with dictionary words (words in the LIWC dictionary file). If a target word matches a dictionary word, the appropriate word scales for that word are incremented, writing the output to a single file. The LIWC internal dictionary consists of 4,500 words and word stems which were collected, categorized, (re)evaluated and processed by independent judges through several rating stages. For more details, check the official LIWC website.<sup>1</sup>

### 4.1. Work

One of the most important years in examining gender differences across conversational topics was 1922, when Henry Moore (1922) theorized that gender differences in a topic choice were timeless since they were biologically oriented, i.e. they were manifestations of men and women's primal nature. Almost 70 years later, Moore's ideas were tested by conducting a replication of his study and providing a comparison of similar studies carried on

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<sup>1</sup> <http://liwc.wpengine.com/>

from 1922 till 1990 (Bishoping, 1993). It was proved that conversational topics have changed over the years. Namely, work-related topics have decreased from 1922 till 1990 in men's and simultaneously dramatically risen in women's speeches, hence, a topic choice was proven not to be biologically determined. Even though work topics have continually been dropping over the years in men's speeches, with the lowest recorded result in 1948, they again rose in 1987. In comparison, the lowest level of work topics in women's speeches was found in 1936, whereas the highest was in 1984. The largest difference in women's speeches was between 1936 and 1948, which may be due to the fact that women started working outside their homes after the Second World War. However, despite the reduction of gender differences in choosing work-related topics, men still chose them more often than women, which was confirmed by Fehr (1996), who believed that the reason for this was in work being a non-personal topic, hence the men's choice.

As can be seen from the mean ranks from our analysis, the male politicians ( $M = 191.83$ ) talked about work less than the female politicians ( $M = 215.71$ ); however, the Mann-Whitney test ( $U = 13136.5$ ,  $Z = -1.819$ ,  $p = .069$ ) showed that the difference was not statistically significant. Our results confirmed Bishoping's hypothesis (1993) about the increase of work-related topics in women's speeches. Furthermore, we conducted the post hoc Kruskal-Wallis test to examine the gender differences in the party affiliation, education level and chamber. While there were no differences in the education level and party affiliation, we did find differences in chamber. Precisely, the men Representatives ( $M = 171.49$ ) talked about work significantly less than the men Senators ( $M = 248.92$ ,  $p = .000$ ) and the women Senators ( $M = 278.10$ ,  $p = .000$ ). The intragroup difference was recorded among the female politicians, i.e. the women Senators ( $M = 278.10$ ) used more work references than the women Representatives ( $M = 200.49$ ,  $p = .039$ ). Overall, as illustrated

Table 1: Distribution of work-related vocabulary among gender, party and house.

	Gender, party, house	N	Mean Rank
Work	Women Democrat House	64	211.12
	Women Democrat Senate	16	296.94
	Women Republican House	18	162.72
	Women Republican Senate	4	202.75
	Men Democrat House	97	169.17
	Men Democrat Senate	36	245.38
	Men Republican House	121	174.00
	Men Republican Senate	39	254.13
	Total	395	



in Table 1, the men Republican Senators and the women Democrat Senators talked about work the most, while the men Republican Representatives and the women Republican Representatives the least. Therefore, we may conclude that a serious issue of work was discussed more extensively in the Senate.

Furthermore, correlation gender differences were recorded with the two-tailed Spearman correlation tests, the results of which are presented in Table 2. When speaking about work, the male politicians tended to use long sentences and more complex words, which was not the case in the female politicians' speeches. Additionally, work-related words negatively correlated with pronouns and social processes words in the men's speeches in comparison to the women's, where no such correlations were found. This could point to a higher level of formality and objectivity when discussing work topics in the men's speeches. Since no such correlations were found in the women's speeches, we could not draw a similar conclusion; yet, it would be incorrect to claim that the women were not formal and objective. Rather, there was no statistical evidence to support that.

Table 2: Correlation of work-related vocabulary, long sentences, six-letter words, pronouns and social processes.

	Gender		Words per sentence	Six-letter words	Pronouns	Social processes
Spearman's rho	Men	Correlation Coefficient	.134*	.418**	-.313**	-.168**
		Sig. (2-tailed)	.022	.000	.000	.004
		N	293	293	293	293
	Women	Correlation Coefficient	-.055	-.034	-.176	-.112
		Sig. (2-tailed)	.583	.423	.077	.264
		N	102	102	102	102

\*. Correlation is significant at the 0.05 level (2-tailed).

\*\*.. Correlation is significant at the 0.01 level (2-tailed).

#### 4.2. Achievement

Even though there might be a natural connection between the concepts of work and achievement, researchers studied them separately, so we have done the same. The distribution of achievement words was first examined by Thorne & Henley (1975). They found that men preferred topics of work and achievement more than women. The study by Stipek & Galinsky (1991) on children's beliefs and responses to failure and success in mathematics confirmed the findings that boys reported pride and achievement more than girls. However, this might have happened because boys outperform girls in

mathematics in general. The traditional view that men use more achievement words was partially confirmed by Ireland (2008). Comparing the American politicians' speaking styles, it was found that McCain used achievement words the most (with 4 percent of his words related to the need for achievement), Biden moderately and Obama and Palin the least. It was claimed that McCain was the most ambitious and success-oriented. Further, starting from a hypothesis that a recommendation letter written for females would contain less achievement and more communication skills references, Schmader et al. (2007) rejected it since the study did not find statistically significant differences in the usage of achievement words. A recent study by Adler (2013) proved that women were more likely to report pride of their achievements, thus indicating possible changes in linguistic choices.

It is clear from our Mann-Whitney results ( $U = 12733.5$ ,  $Z = -2.225$ ,  $p = .026$ ) that significant gender differences existed. The mean ranks showed that the women ( $M = 219.66$ ) were achievement oriented more than the men ( $M = 190.46$ ), which means that our findings are consistent with Adler's (2013). Additionally, we recorded the gender differences with respect to the chamber. The men Representatives ( $M = 169.30$ ) used achievement words significantly less than the men Senators ( $M = 249.81$ ,  $p = .000$ ) or the women Senators ( $M = 268.8$ ,  $p = .001$ ). To put it another way, the men Republican Senators and the women Republican Senators used achievement references the most, whereas the men Democrat Representatives and the women Republican Representatives the least, as shown in Table 3.

Table 3: Distribution of achievement-related vocabulary among gender, party and house.

	Gender, party, house	N	Mean Rank
Achievement	Women Democrat House	64	209.28
	Women Democrat Senate	16	267.53
	Women Republican House	18	202.67
	Women Republican Senate	4	270.75
	Men Democrat House	97	164.64
	Men Democrat Senate	36	246.72
	Men Republican House	121	173.72
	Men Republican Senate	39	254.67
	Total	395	

Consistent with our work-related vocabulary results, the Senators were more ambitious and success focused than the Representatives. The obvious change of women using more achievement references than men might be explained by the fact that, in comparison with the first research done in 1975, today more women work. In the early 20<sup>th</sup> century, women were mostly

housewives who took care of children and did house chores. Even though it is an admirable and valuable job, neither women themselves nor society appreciated it enough. Moreover, rare were those who even considered it to be a job. These attitudes and monotonous routine days might have contributed to women not appreciating themselves and consequently not reporting any achievement they had made. However, with more women's rights and employment opportunities, the situation has clearly changed and is reflected in their linguistic choices, as demonstrated by Schmader et al. (2007), Adler (2013), and our study.

Additionally, we were interested in the gender differences in the usage of the specific achievement words. Since the percentages of those words with respect to the total number of words were very low, we will only report the number of occurrences written in the brackets. We found that the male politicians used the words beat (58), complete (490), control (619), win (286) and lose (838). The female politicians, on the other hand, used the words achieve (90), succeed (176) and improve (163). Therefore, we may conclude that the male politicians were more competitively oriented and perceived their success in terms of defeating the other participatory party, while the female politicians perceived achievement as successful task completion which did not include anyone's failure or defeat.

Finally, the Spearman correlation tests confirmed our expectations and demonstrated gender similarities presented in Table 4. When speaking about Table 4: Correlation of achievement-related vocabulary, long sentences, six-letter words, work-related vocabulary and tentativeness.

	Gender		Words per sentence	Six-letter words	Work	Tentativeness
Spearman's rho	Men	Correlation Coefficient	.171**	.447**	.584**	-.319**
		Sig. (2-tailed)	.003	.000	.000	.000
		N	293	293	293	293
	Women	Correlation Coefficient	.251*	.352**	.364**	-.380**
		Sig. (2-tailed)	.011	.000	.000	.000
		N	102	102	102	102

\*. Correlation is significant at the 0.05 level (2-tailed).

\*\*. Correlation is significant at the 0.01 level (2-tailed).

achievement, both male and female politicians used complex sentences and long words. The reported achievements were strictly related to work, i.e.

neither the male nor the female politicians shared their personal achievements with their political colleagues. This is rather expected since the definition of achievement can be subjective. One's personal success need not be interpreted as such by someone who has not dealt with it. Business achievements, since they share more or less similar goals, are perceived similarly and politicians can more easily identify themselves with the situation and success. Finally, a negative correlation with tentativeness shows that both groups of the politicians were extremely certain when reporting their successful actions.

### 4.3. Leisure

Gender differences in speaking about leisure activities have been studied systematically since the first half of the 20<sup>th</sup> century (Moore, 1922). In a comparative overview of eight studies carried on from 1922 until 1990, mentioned in Subsection 4.1., and provided by Bishoping (1993), it was clear that men dominated in talking about leisure activities, especially sports. However, gradual rising of leisure references over the years in women's speeches was also evident. During coffee breaks at a workplace, men tended to talk about sports, whereas women talked about personal experiences (Eggins & Slade, 1997). Similarly, the same results were found by Martin Rojo & Gomez Esteban (2005) believing that men had problems when they talked about personal topics, i.e. they felt more relaxed talking about soccer. The same results that show men talk about sports or leisure activities in general were confirmed even in more recent studies (Yale, 2007; Newman et al., 2008; Krenn & Schreitter, 2015; Manjavacas, 2015).

In order to compare previous research results with the results obtained from our corpus, we conducted the two-tailed Mann-Whitney test whose results ( $U = 14181$ ,  $Z = -.767$ ,  $p = .443$ ) showed that the male ( $M = 195.40$ ) and the female ( $M = 205.47$ ) politicians used leisure references identically, which does not support any of the previous findings. No gender differences were recorded with respect to the chamber or party affiliation. Even though they were not statistically significant, we found that men talked about ball sports (385) and video games (19) more than women. Despite the tendency of equalization, ball sports are still more played by men and receive more media and fans' attention than female ball sports. Also, men are more frequent video game players; hence, a higher frequency of these words in the men's speeches was not surprising. Interestingly, the men also used more references to shopping (37) and mall (33), which are traditionally related to women.

Finally, the Spearman correlation tests revealed some gender differences in the use of leisure words presented in Table 5. Leisure words positively

correlated with achievement references in both the male and the female politicians' speeches, which might have happened when they were reporting and recognizing someone's sport results. However, the gender difference was in the men's expressing positive emotions while doing that, whereas the women did not, which might mean that even when talking about casual topics such as leisure activities, the women were more formal and did not express their feelings. It should be emphasized that political discourse of this type is a forum where formal communication and emotionless speeches are expected, so the female politicians clearly tried to meet those expectations.

Table 5: Correlation of leisure-related vocabulary, achievement and positive emotions.

		Gender	Achievement	Positive emotions
Spearman's rho	Men	Correlation Coefficient	.289**	.305**
		Sig. (2-tailed)	.000	.000
		N	293	293
	Women	Correlation Coefficient	.212*	.171
		Sig. (2-tailed)	.033	.085
		N	102	102

\*. Correlation is significant at the 0.05 level (2-tailed).

\*\*. Correlation is significant at the 0.01 level (2-tailed).

#### 4.4. Home

There has been some interest recently in examining gender differences in home references. The two studies which examined it (Newman et al., 2008; Manjavacas, 2015) showed that home references were used in women's speeches more. The researchers attributed it to the women's natural roles of mothers and caretakers. Our study and the Mann-Whitney results ( $U = 12011$ ,  $Z = -2.953$ ,  $p = .003$ ) confirmed the existence of the gender differences and the mean ranks showed that indeed the female politicians ( $M = 226.75$ ) talked about home more than the male politicians ( $M = 187.99$ ), which means that our results are in accord with Newman et al. (2008) and Manjavacas (2015). Further post hoc Kruskal-Wallis analysis showed that the women Representatives ( $M = 232.52$ ) used home references significantly more than the men Senators ( $M = 159.73$ ,  $p = .000$ ). Also, as presented in Table 6, the women Democrats used home references significantly more than the women Republicans ( $p = .021$ ), the men Democrats ( $p = .002$ ) and the men Republicans ( $p = .003$ ).

Table 6: Distribution of home-related vocabulary among gender and party.

	Gender and party	N	Mean Rank
Home	Women Democrats	80	244.08
	Women Republicans	22	163.70
	Men Democrats	133	188.16
	Men Republicans	160	187.85
	Total	395	

Calculating the categorical variables of gender, party and house together, the men Republican Senators and the women Republican Senators referred to home less than the men Republican Representatives and the women Democrat Representatives, as presented in Table 7. The fact that the female politicians used more home references may be due to their social roles of mothers, wives and caretakers, with home and their family playing the central role.

Table 7: Distribution of home-related vocabulary among gender, party and house.

	Gender, party, house	N	Mean Rank
Home	Women Democrat House	64	251.43
	Women Democrat Senate	16	214.69
	Women Republican House	18	165.31
	Women Republican Senate	4	156.50
	Men Democrat House	97	190.32
	Men Democrat Senate	36	182.35
	Men Republican House	121	203.91
	Men Republican Senate	39	138.04
	Total	395	

Furthermore, the two most used words from the home category by both the men and the women were *family* and *domestic*, and, in most cases, they were followed by violence. The words pointed to the politicians being concerned about families in general specifically paying attention to the issue of violence. In addition, the Spearman correlation test results presented in Table 8 revealed that the male politicians were concerned about families' health and expressed their sad feelings, while such correlations were not found in the women's speeches, which again pointed to the women being more formal, i.e. they did not express their feelings even when speaking about home and families.

Table 8: Correlation of home-related vocabulary, health references and negative emotions.

	Gender		Health	Negative emotions
Spearman's rho	Men	Correlation Coefficient	.118*	-.015
		Sig. (2-tailed)	.043	.801
		N	293	293
	Women	Correlation Coefficient	.009	.146
		Sig. (2-tailed)	.932	.144
		N	102	102

\*. Correlation is significant at the 0.05 level (2-tailed).

\*\*. Correlation is significant at the 0.01 level (2-tailed).

#### 4.5. Money

Money and work have always been intertwined concepts so some researchers studied them as a unit rather than two separate parts. A comparative overview of eight studies combined the issues of work and money as cited in Bishoping (1993). The results we reported in Subsection 4.1 apply to this subsection as well. A trend of decreasing the number of money references in men's and simultaneously increasing in women's speeches was recorded by Bishoping (1993). Yet, men still used more money references than women. Since it was reported in 1993, gender differences in the usage of money references have attracted a lot of interest. However, researchers found the same results. Regardless of examining different settings or written and spoken discourse, money was reported as a characteristic of the men's linguistic style (Lester, 2004; Schler et al., 2006; Yale, 2007; Cunha, 2013; Ottoni et al., 2013; Singh Ludu, 2014; Gorbatai & Nelson, 2015). The only subtle difference was found by Ireland (2008) showing that McCain talked about money nearly three times more than another male politician Biden or Sarah Palin, thus pointing to possible intragroup differences.

Conducting the Mann-Whitney two-tailed test, we found that the gender differences in money references were not significant ( $U = 13170$ ,  $Z = -1.785$ ,  $p = .074$ ). However, the mean ranks pointed that the female politicians ( $M = 215.38$ ) referred to money issues more than the male politicians ( $M = 191.95$ ), which does not support the previous findings and point to gradual changes in money topics. Despite non-significant differences, we found that the words tax (2,495), bargain (587) and bank (152) were more used in the men's speeches and the words debt (149) and insurance (236) in the women's. These results may be interpreted as the female politicians being more focused on ensuring financial security, while the references to bank, which is known as

a very powerful lobby, and bargain in the men’s speeches pointed to negotiation and competitiveness—the concepts more associated with men.

We were also interested in correlations with other dependent variables so we conducted the two-tailed Spearman correlation tests, the results of which are provided in Table 9. A positive correlation of money references and the concept of tentativeness showed that both the male and the female politicians were extremely cautious when they gave promises, suggestions or criticize previous actions because voters can forgive and forget various things but if you jeopardize their wellbeing by wasting money, the forgiveness will be very difficult. Secondly, a positive correlation was found with present and future tenses in both the men’s and the women’s speeches, which might mean they were comparing the current financial situation with possible future improvements, investments or savings. Lastly, the pronouns *we* and *they* positively correlated with money words in the men’s but not in the women’s speeches. Taking the high number of bank and bargain references in the men’s speeches into account, the pronouns *we* and *they* might stand for people, as users of loans and money in general, and banks as providers. Since the two parties have completely opposite interests, their money relationship has to be negotiated.

Table 9: Correlation of money references, tentativeness, present and future tenses, the pronouns *we* and *they*.

		Gender	Tenta- tiveness	Present tense	Future tense	W e	They
Spearman's rho	Men	Correlation Coefficient	.183**	.320**	.303**	.215**	.175**
		Sig. (2-tailed)	.002	.000	.000	.000	.003
		N	293	293	293	293	293
	Women	Correlation Coefficient	.257**	.287**	.290**	.139	.092
		Sig. (2-tailed)	.009	.003	.003	.165	.357
		N	102	102	102	102	102

\*. Correlation is significant at the 0.05 level (2-tailed).

\*\*. Correlation is significant at the 0.01 level (2-tailed).

#### 4.6. Religion

Since we were unable to find any previous research on gender differences in the use of religion references, our results might be beneficial to future researchers. The Mann-Whitney results ( $U = 12508$ ,  $Z = -2.468$ ,  $p = .014$ , two-tailed) demonstrated that the gender differences with a statistical significance existed. The mean ranks showed that religion references were more found in the men’s ( $M = 206.31$ ) than in the women’s ( $M = 174.13$ ) speeches. The gender differences were also found with respect to the party affiliation



and chamber by the post hoc Kruskal-Wallis tests as given in Table 10. The men Republicans referred to religion significantly more than the women Democrats ( $p = .025$ ) and the men Senators talked about religion more than the women Representatives ( $p = .006$ ).

Table 10: Distribution of religion references among gender, party and house.

	<b>Gender and party</b>	<b>N</b>	<b>Mean Rank</b>
Religion	Women Democrats	80	166.33
	Women Republicans	22	202.50
	Men Democrats	133	200.82
	Men Republicans	160	210.88
	<b>Gender and house</b>	<b>N</b>	<b>Mean Rank</b>
Religion	Women Representatives	82	165.90
	Women Senators	20	207.85
	Men Representatives	216	199.68
	Men Senators	77	224.92
	Total	395	

However, since the word God (418), accompanied by Jesus (38), was used at the highest frequency, the results might have been skewed by using the words in formulaic expressions such as *God bless America*, *Thank God*, *Thank Jesus*, etc. In addition to the catholic religion, which was mentioned the most in both the men's (1,002) and the women's (138) speeches, Islam was the second most mentioned religion with 208 references in the men's and 25 in the women's speeches. The majority of those references were related to the issue of jihad soldiers and ISIL. In the light of recent events, the religion of Islam being used almost exclusively with negative connotations, comes as no surprise.

#### 4.7. Death

The last of the current concerns category, death, has received almost no research attention so far. To be more precise, only Graells-Garrido et al. (2015) dealt with the gender differences in the death reference use who, according to the results, claimed that men talked about death more than women. The Mann-Whitney test results from our analysis ( $U = 12814$ ,  $Z = -2.172$ ,  $p = .030$ , two-tailed) demonstrated that the male politicians ( $M = 205.27$ ) talked about death significantly more than their female counterparts ( $M = 177.13$ ). We confirmed recent results by Graells-Garrido et al. (2015). Based on these results, we were interested in possible gender differences in terms of the party affiliation and chamber seats examined by the post hoc Kruskal-Wallis tests. The significant gender difference was found in the party affiliation. Namely,

the women Democrats ( $M = 166.81$ ) talked about death significantly less than the men Democrats ( $M = 222.17$ ,  $p = .003$ ).

We further calculated the number of the use of specific death references and found that the most used word was *war* in both the men's (2,315) and the women's (396) speeches. Yet, it was used by the men at a much higher frequency. Further, while there were small or no differences in general death-related words such as *decease*, *murder*, *overdose*, *kill*, etc., the words *genocide* and *massacre* were used more often in the men's (90, 52) than in the women's (7, 3) speeches. So, it was clear that the female politicians used more generalized death references, while the men, in addition to general ones, also talked about extremely violent crimes involving a lot of casualties.

Table 11 presents the revealing results of the Spearman correlation two-tailed tests. With a significant positive correlation of death references, the pronoun *he/she* and family, the male politicians were more focused on victims and their family members, while the correlation was not found in the women's speeches, which indicated that the women focused more on the problem and not the people. Both the men and the women talked about real events using past tense and reporting the number of victims. However, while the male politicians did not hesitate in expressing negative emotions in general, sadness in particular, the female politicians remained emotionless. Again, the female politicians were proven to be reluctant to express their emotions even when speaking about the issue which usually unites everyone regardless of any differences.

Table 11: Correlation of death references, the pronoun *he/she*, family reference, past tense, numbers, negative emotions and sadness.

	Gender	He/she	Family	Past tense	Numbers	Negative emotions	Sadness	
Spearman's rho	Men	Correlation Coefficient	.246**	.165**	.280**	.116*	.377**	.229**
		Sig. (2-tailed)	.000	.005	.000	.047	.000	.000
		N	293	293	293	293	293	293
	Women	Correlation Coefficient	.185	.023	.301*	.201*	.175	.106
		Sig. (2-tailed)	.062	.818	.002	.043	.079	.288
		N	102	102	102	102	102	102

\*. Correlation is significant at the 0.05 level (2-tailed).

\*\*. Correlation is significant at the 0.01 level (2-tailed).

## 5. Conclusion

The main objective of this paper was to examine if there were differences in the choice of speech topics between the male and female politicians who served in the 113<sup>th</sup> United States Congress. Conducting quantitative and qualitative analyses, we found both gender differences and similarities. Regarding the first research question, statistically significant differences in the use of 7 conversational topics were found in the topics of achievement and home, which were more discussed by the female politicians, and religion and death, which were more discussed by the male politicians, i.e. statistically significant differences were not found in the topics of work, leisure and money. Several studies (Thorne & Henley, 1975; Stipek & Galinsky, 1991) have shown that men were more focused on achievement than women. In line with the results obtained in the most recent Adler's study (2013), our results pointed to an undoubtable change of perspective, i.e. the female politicians have become more achievement-oriented, which was reflected in their speeches. The female politicians also recognized other people's success, which is a stereotypical behavior, or their own achievement, thus trying to establish themselves as valuable contributors to the political society. The result of the women focusing on home issues more than the men was rather expected due to women's natural caretaker role, i.e. our results are in line with Newman et al.'s (2008) and Manjavacas' (2015) studies. The topics of religion and death have not received attention by researchers so our results might be a good starting point for future research. In addition to the male politicians being more prone to using formulaic expressions which include some deity, they discussed religious issues more than the women. This result might be explained by the fact that the men frequently discussed Islam in terms of ISIL. To paraphrase, they mentioned religion in terms of war which is a stereotypical men's field of interest. Another expected result was that the male politicians talked about the issue of death more than their female colleagues. Furthermore, the female politicians used general references, whereas the male politicians used hyponyms related to violent crimes and casualties. Even though the differences were not statistically significant, the results of the topics of work and money pointed to a gradual change realized in the female politicians starting to discuss these issues traditionally discussed by men. However, when talking about money, the female politicians focused on ensuring financial stability, while the male politicians accentuated the concept of a fight and defeating an opponent. Both types of behavior are stereotypical. Further research should be undertaken to investigate the mentioned trends. We hypothesize that female politicians will continue to more actively discuss the issues of achievement, work and money—the topics traditionally associated with men. Also, future investigations may focus on a

closer examination of specific words and study if men feel more comfortable using hyponyms and women using hyperonyms in general.

The results on gender differences found in our corpus were accompanied by the results involving other categorical variables such as party affiliation and house, which were also revealing. Given the conservative Republican in comparison to the liberal Democrat philosophy, one unanticipated finding was that the women Democrats used home references significantly more than the women Republicans. However, the women did not talk about family as a core of a society or about family social rights; rather, they focused on the issue of domestic violence. So, our results point to the women Democrats more actively dealing with the issue and proposing bills on protecting women and children. Another gender difference was found in the topic of religion. Namely, the men Republicans referred to religion significantly more than their Democratic female colleagues. Since we recorded a correlation of religion (Islam) and jihadism, this result was not surprising. Firstly, women in general are less prone to speaking about the issues of war and secondly, Republicans tend to perceive the USA as the primary force standing against global, or in this case, ISIL tyranny. Furthermore, the results on the use of work and achievement vocabulary clearly indicated that both the men and women Senators focused on these topics significantly more than their colleagues from the House of Representatives. This showed that the Senators were more ambitious, task-oriented and success focused than the Representatives. It might be worthwhile to examine whether the more serious approach by Senators is universal in other congresses and study is it a cultural phenomenon.

Finally, we believe that correlations of continuous variables are fruitful for future investigations. Our two-tailed Spearman correlation results showed that both the male and the female politicians increased the level of the formality when speaking about serious issues of work and achievement, which was expected. Contrary to expectations, the male politicians expressed either positive or negative feelings when recognizing someone's success, talking about health issues or casualties. It seems possible that the female politicians were trying to establish themselves as worthy contributors to the political society; as serious, task-focused politicians and not emotional women. In order to do that, they could not have shown emotions because they are taken as a sign of weakness, so they avoided them. Our results might be an inspirational point for further research which can include other variables in studying correlations.

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